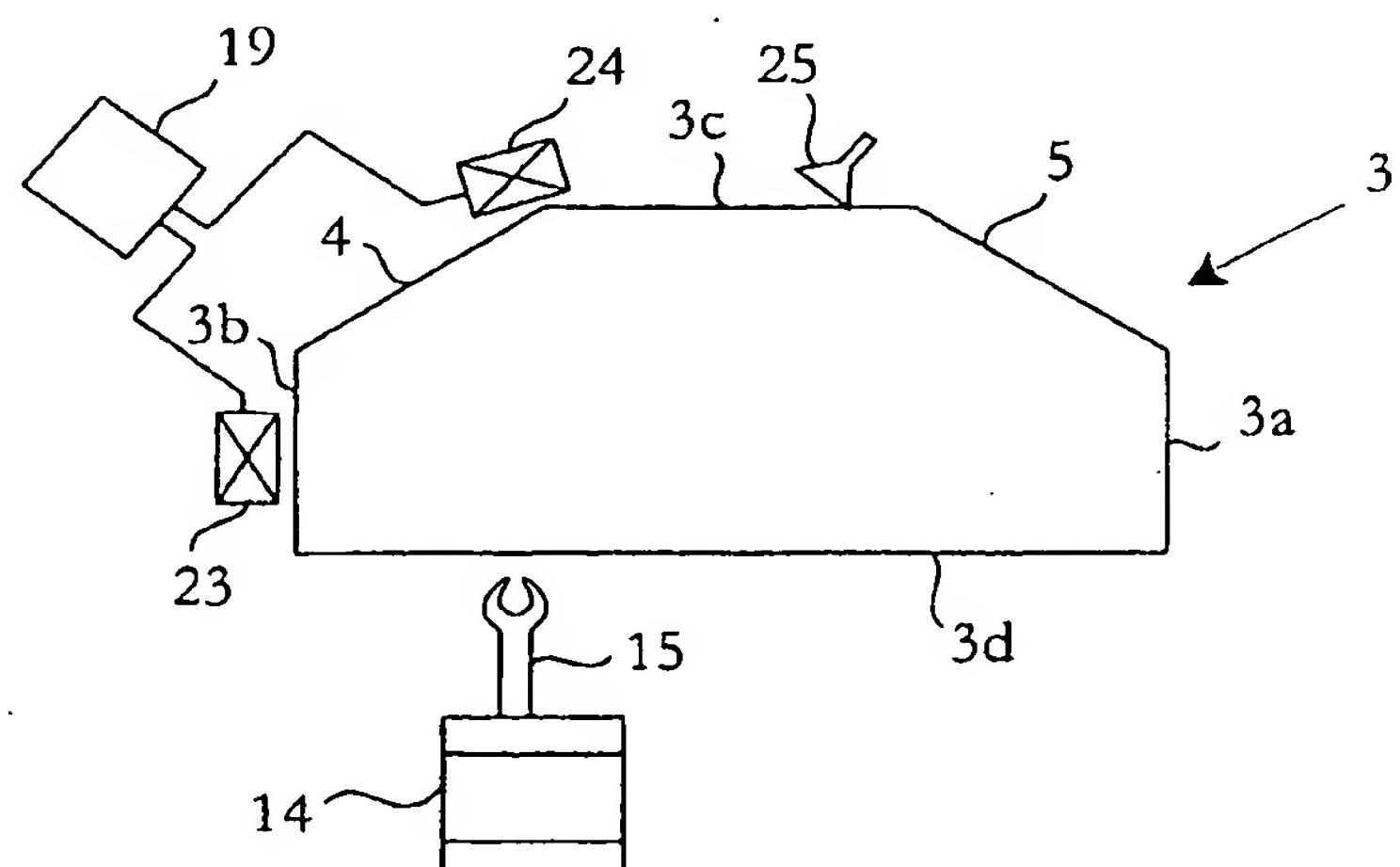
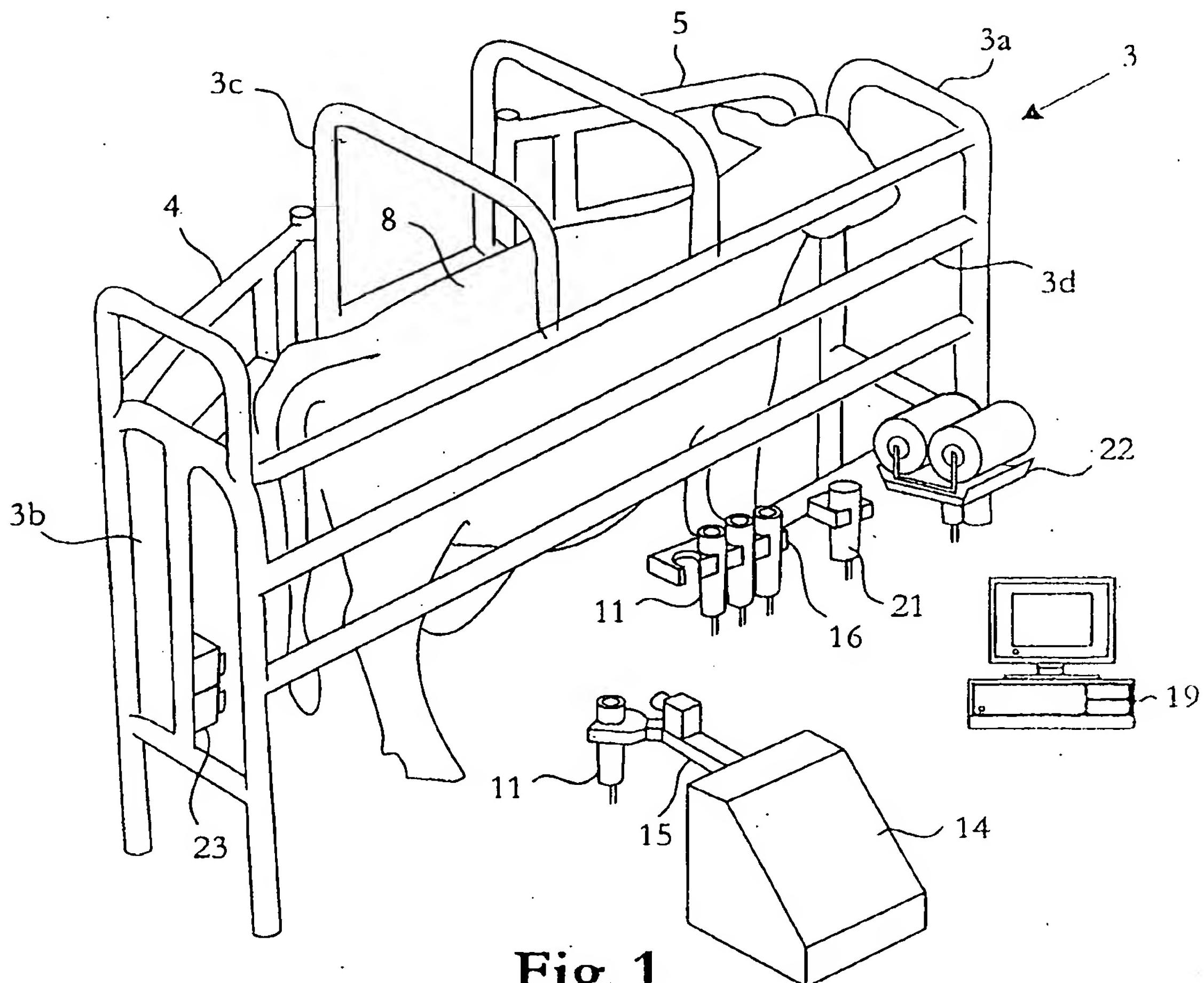


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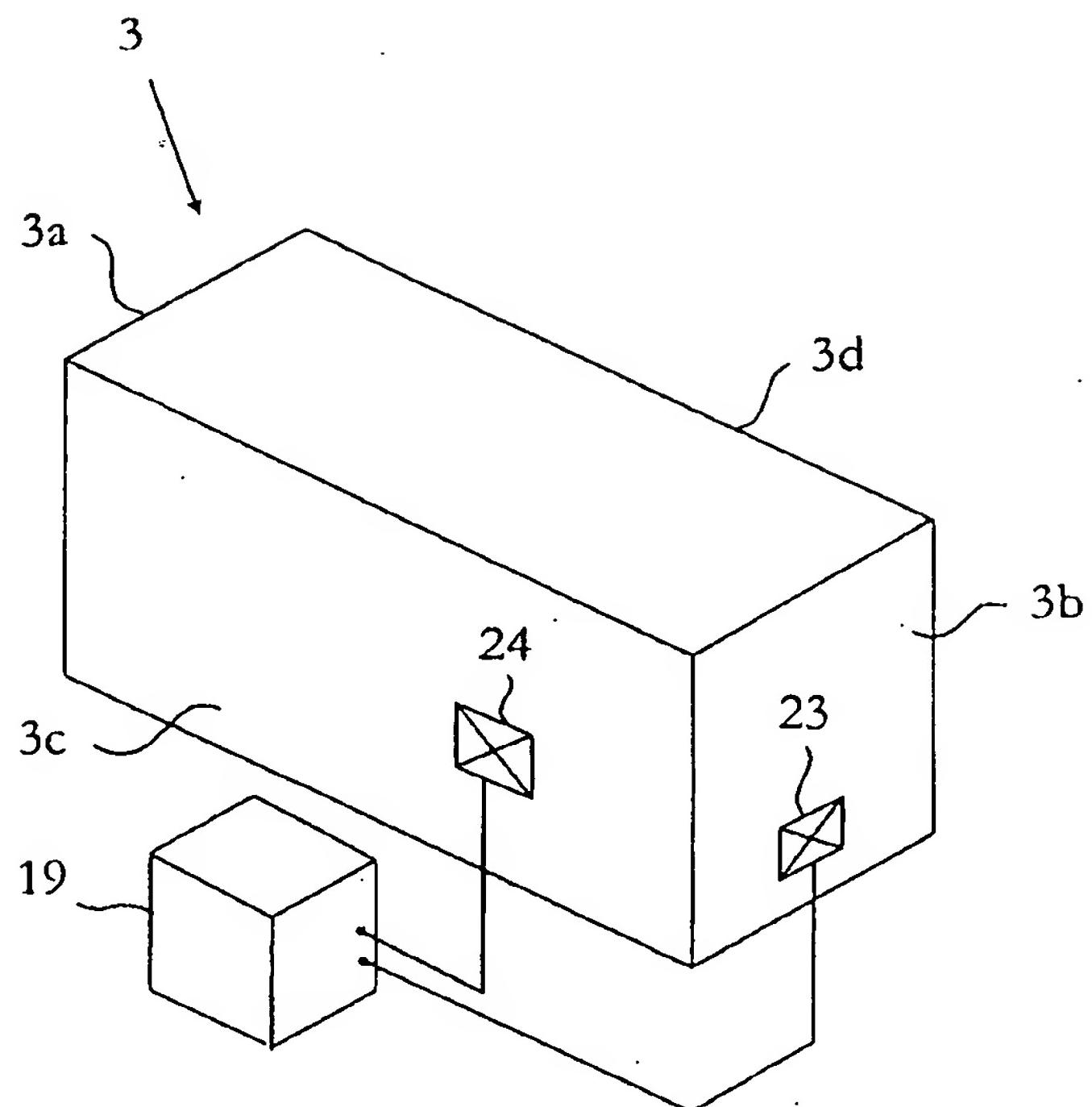


Fig. 3

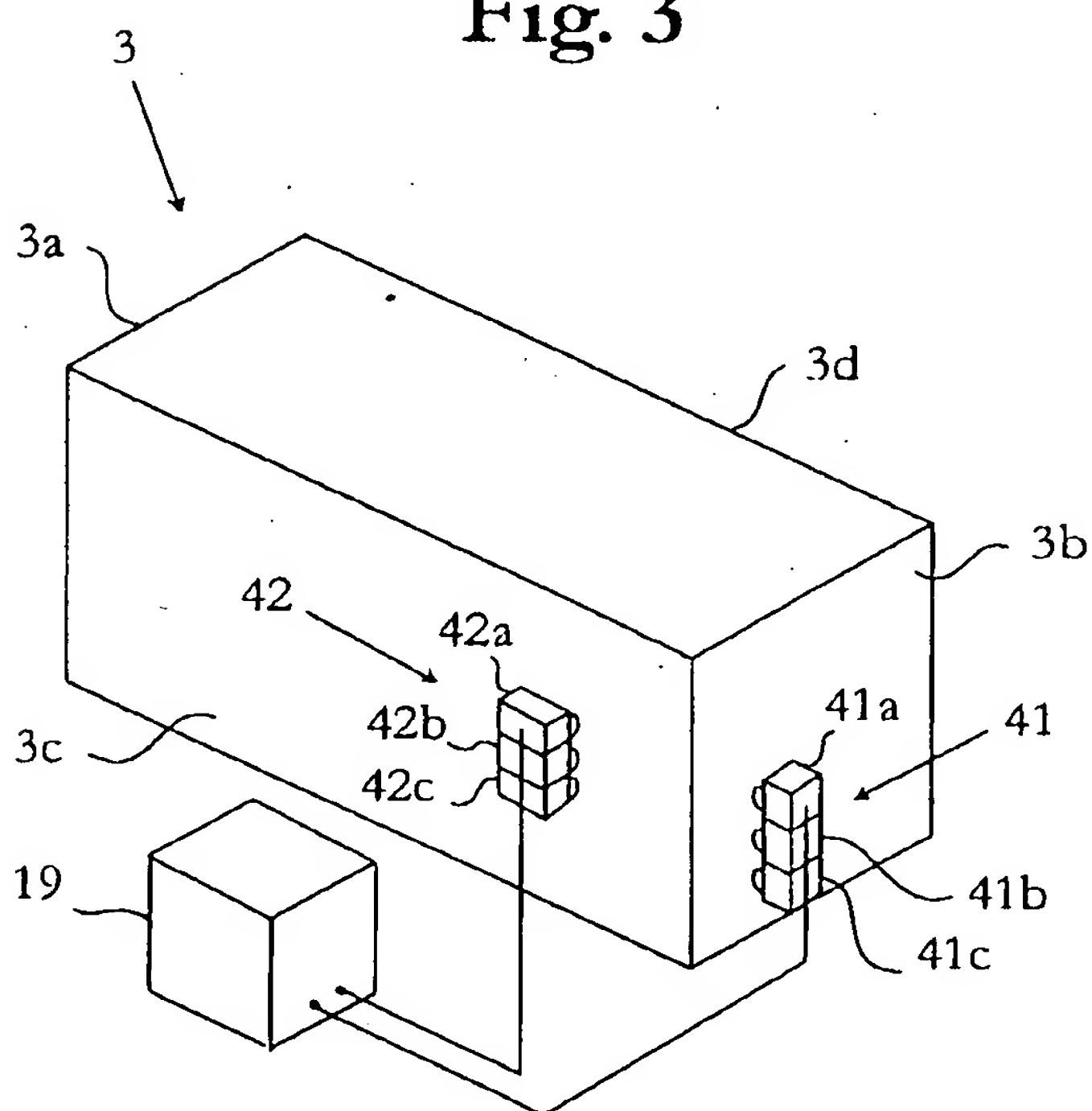


Fig. 4

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Pre-processing

- Noise reduction
 - Mean filtering
 - Median filtering
 - Gaussian filtering
 - Low-pass filtering
- Correction for poor lightning
 - Histogram modification
- Removal of superfluous information
 - Motion detection

Segmentation

- Finding edges
 - Laplace
 - Sobel
 - Prewitt
 - Difference of Gaussian
 - Shift and difference
 - Canny
 - Phase congruency
- Other segmentation methods
 - Thresholding
 - Image difference
 - Texture segmentation

Representation

- Labeling

Description

- Feature vector
 - Connected Components Labeling

Classification

- Low-level classification
- High-level classification
 - HCMA
 - ML-classifier
 - Cluster analysis

Fig. 5

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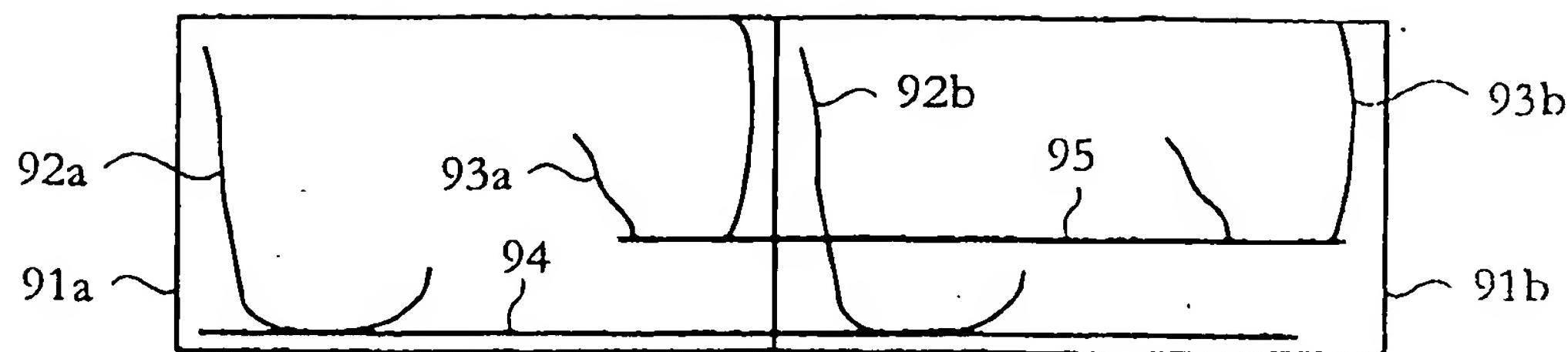


Fig. 6

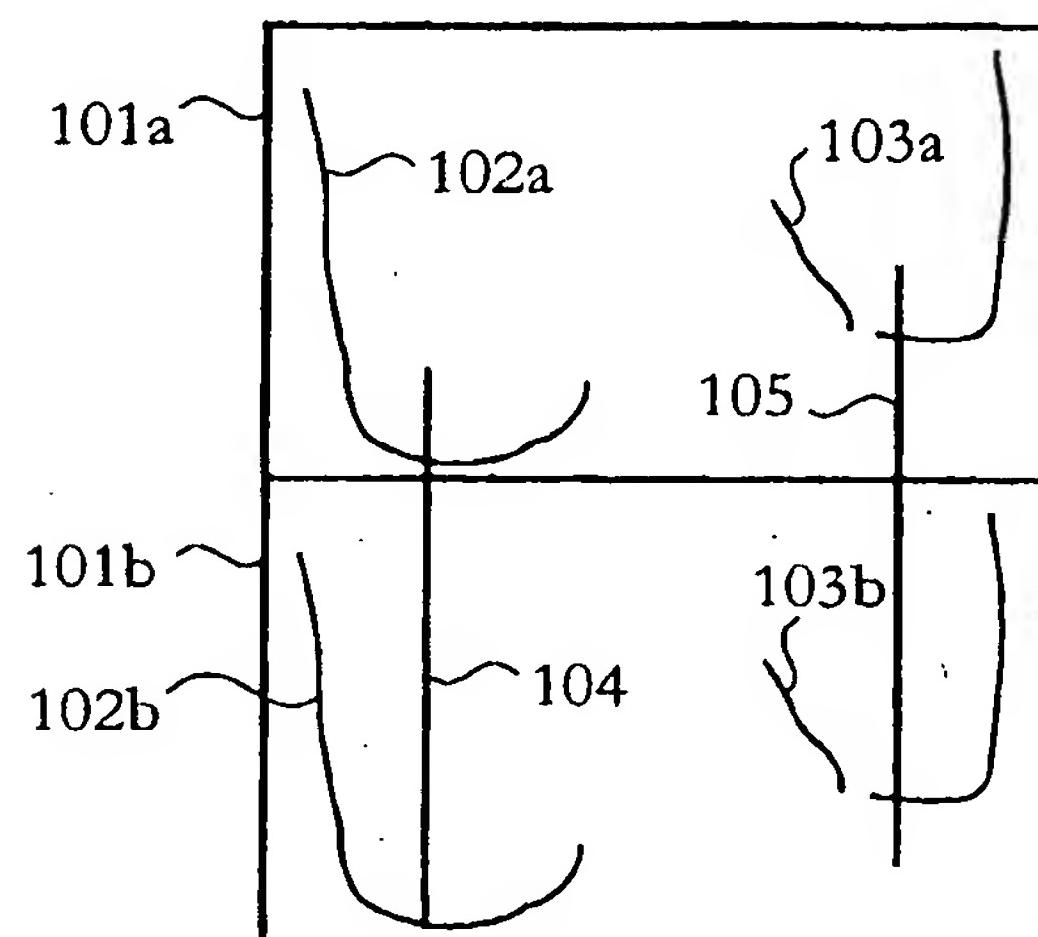


Fig. 7

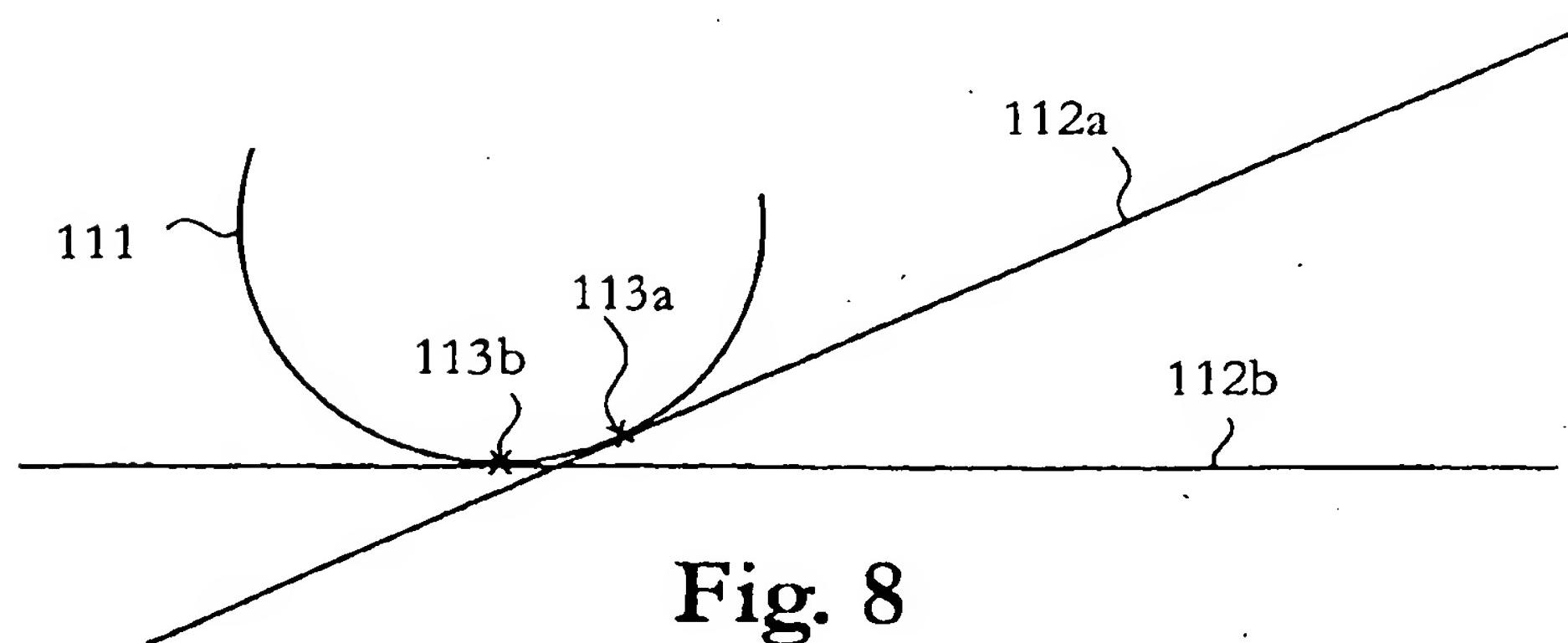


Fig. 8